

Support of the SABSOON Effort

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LONG-TERM GOALS

TACTS continues to assist the SABSOON efforts to utilize the Navy's offshore training facilities on the Georgia continental shelf for scientific research activities. It is our goal to make the fullest possible use of these installations, while ensuring that these activities do not impact the Navy mission and that no additional costs are incurred by the operational Navy.



This is one of eight U.S. Navy offshore platforms in the Atlantic Ocean which support the Beaufort Tactical Aircrew Combat Training System (TACTS). The offshore range is used for training operations for Navy, Marine, Air Force and Air National Guard fighter pilots .

OBJECTIVES

We are aiding the Skidaway Institute of Oceanography in its efforts to deploy meteorological and oceanographic instrumentation on the offshore platforms maintained by TACTS. Our primary role in the partnership has been to advise Skidaway personnel on interfacing to the TACTS power and communication systems, and to coordinate the scheduling of helicopter support.

APPROACH

We are facilitating the implementation of SABSOON by allowing the installation of scientific instrumentation on offshore Navy platforms, advising Skidaway personnel on how best to interface with our existing equipment, and maintaining and upgrading various components of the TACTS systems that are utilized by SABSOON. Our personnel, in particular Jud Gatch with the Navy, and Carl Drawdy with our contractor Litton/PRC, have been working closely with Skidaway to ensure that the program moves forward and does not interfere with the existing Navy systems. We also continue to improve the power supply and communications system at the facility that also supports SABSOON.

WORK COMPLETED

The coordinated helicopter support system worked out in the first year of the program continues to function well for all parties involved. This provides regular and reliable access to the offshore platforms for SABSOON personnel for instrument installations and servicing. Landing privileges for the helicopter have been established at an open field at the Skidaway Institute, providing direct access to the offshore platforms from their facility. This location also has the advantage of being directly adjacent to coastal waterways. Thus, sling load operations that are not permitted from inland airfields (due to overflight of populated areas) can be staged from Skidaway, which also benefits the Navy maintenance efforts.

Several upgrades to the TACTS power and communications systems on the range were initiated or completed during the last year. Solar panels at two of the three larger towers were replaced with higher efficiency units (33% increase in power output) and the solar array was enlarged, providing at least a 50% increase in charging capacity. The third large tower will be upgraded in the coming months. These system improvements will further ensure that adequate power is available for TACTS operations and continuous scientific data collection. The upgrade cost for each tower is approximately \$90,000.



U.S. Navy F-18 fighters conducting Air Combat training. (Note the Instrumentation pod on the wingtip)

Major components of the longest link in the microwave communications system (between the tower array and shore) were replaced with new hardware to improve the signal-to-noise ratio of the transmission, and to increase the overall capacity of the communications system. Fine tuning of this system continues but changes to date have already significantly improved signal quality. Further upgrades to the inter-tower communications system will take place in the coming fiscal year, and will dramatically increase the capacity of the communications system. Expenditures associated with the communications upgrades exceed \$500,000.

RESULTS

A Navy/civilian collaboration to utilize a military facility for non-military scientific research purposes is functioning well. The project is operational and has not interfered with the primary TACTS mission of operating a flight training range. We anticipate the continued success of the partnership.

IMPACT/APPLICATIONS

Full implementation of SABSOON will provide the scientific community, resource managers, and educators with real-time access to the coastal ocean. Data are currently being provided to the National Weather Service for inclusion in their marine forecasting models. We are pleased to see the flight training range used for these purposes, and hope that similar ventures will be undertaken because of the success of this program.

RELATED PROJECTS

Other partners in this NOPP-funded effort are Harvey Seim at the University of North Carolina, Jim Nelson at the Skidaway Institute of Oceanography in Savannah, Georgia and Charlie Barans with the Marine Resources Division of the Department of Marine Resources in South Carolina. Skidaway is the lead institute in SABSOON and is responsible for designing and deploying the instrumentation, communications, and data archiving and distribution systems. Dr. Barans is a fisheries biologist and is using video monitoring to study fisheries in the South Atlantic Bight. A new NOPP-funded effort, "Limited-area operational coastal ocean models: assimilation of observations from fixed platforms on the continental shelf and far-field forcing from open ocean models", lead by Dr. Daniel Lynch of Dartmouth College, will make extensive use of the SABSOON observations in a coastal ocean and coastal atmosphere modeling effort over the next three years.